

BIRD BANDING DEPARTMENT

Under the Direction of Wm. I. Lyon, Waukegan, Ill.

THE EARLY HISTORY OF BIRD BANDING IN AMERICA

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There has recently been a great revival and extension of interest in bird banding in this country, and I presume it is because of this that I have been asked to prepare a brief account of the early efforts along this line. Since the chief outlines of this history have already been published on several occasions¹ there would be no object in repeating them. There is, however, a more intimate and personal history connected with the early endeavors to establish bird banding as a systematic method of bird study which may not be without interest to the considerable numbers who are interested in the undertaking at this time, even though it may not add anything essential to what has already been written. This is my excuse, therefore, if the present account appears to be more a personal narrative of some of the early struggles, discouragements and successes than a connected history of the bird-banding movement in this country. For the same reason, I shall not consider the independent development of the study of birds by this method in several European countries. This is essentially an account of the beginnings and early days of the American Bird Banding Association, the functions of which have lately been so happily taken over and are being so effectively prosecuted by the Bureau of Biological Survey.

Sporadic attempts to mark birds in one way or another, in order to determine whether they returned to the localities in which they were originally marked, have undoubtedly long been made. We know that Audubon made one such successful experiment, and game birds particularly have occasionally been banded or tagged in some way by individual hunters or by sporting clubs. Such efforts were, however, usually purely local in their scope, the marks affording no means of identification to anyone except those who did the banding, and hence yielded no "returns" unless the birds chanced to be recaptured in the localities in which they were marked. The first systematic attempts in this country, so far as I know, to secure wider coöperation by having a return address on the bands, were those of Mr. Taverner, then at Detroit, and of Dr. Bartsch at Washington. Although both of these ornithologists worked on a relatively small scale and for a limited period, they secured results sufficient to demonstrate the value of the method.

¹Cole, L. J., The tagging of wild birds as a means of studying their movements, *Auk*, Vol. XXVI, 1909, pp. 137-143; Cole, L. J., The tagging of wild birds: Reports of progress in 1909, *Auk*, Vol. XXVII, 1910, pp. 153-168; Cleaves, H. H., What the American Bird Banding Association has accomplished during 1912, *Auk*, Vol. XXX, 1913, pp. 248-261; Lincoln, F. C., The history and purposes of bird banding, *Auk*, Vol. XXXVIII, 1921, pp. 217-228.

My own interest in bird-banding grew independently out of my life-long interest in birds and in the problems of migration. I had the method in mind as early as 1901² and the results of Prof. F. H. Herrick, obtained in his study of the distribution of the lobster on our Atlantic seaboard by means of tagged specimens, convinced me of the practicability of the method for birds. In 1902, in connection with a study of the German carp which I was making for the United States Fish Commission, I tagged a small number of these fish in order to determine their movements and distribution, but the work was not continued and was on too small a scale to produce results. I became determined, however, to try the method out on birds at the first opportunity.

Such opportunity did not offer until the winter of 1907-8, when I broached the subject to the New Haven Bird Club, a small but enthusiastic group of bird students interested primarily in local field work. The proposition was received cordially and a committee, consisting of Dr. Louis B. Bishop, Mr. Clifford H. Pangburn, and myself, as chairman, was appointed to put the plan into operation. This plan contemplated at that time only local efforts. It involved securing a supply of bands and their distribution to members of the club, who should carry them with them on their field trips, and use them whenever opportunity offered, principally on nestlings. The banding, however, was rather incidental, the chief interest of the field workers being along other lines, and the number of birds banded in 1908 proved to be disappointingly small. I was, however, more than ever convinced of the value of the method, and felt particularly that if the interest and coöperation of the large number of amateur bird students in the country could be secured in the work it would gradually build up an accumulation of accurate data on bird movements which would be of the greatest scientific value. During the season I discussed the matter particularly with Dr. Bishop and with Dr. Glover M. Allen of Cambridge, and corresponded with a number of other ornithologists. It was in these discussions that the plan developed of gradually extending the work to national scope, but for the time it seemed best to keep it under the auspices of the New Haven Bird Club. The committee, however, asked and received permission to expand its powers, and the whole work, was, in fact, placed unrestrictedly in its hands. It is my recollection that during the first year the Club had contributed something towards the modest financial support of the work, but it was now determined to depend for financial assistance entirely on voluntary subscriptions.

The expanded program increased greatly the burden of correspondence, the difficulties of securing bands and of obtaining funds to meet necessary expenses. The correspondence and keeping of the records fell entirely to myself and had to be conducted without clerical assistance, except a necessary minimum now and then when a form letter was to be sent out. This grew to be a considerable burden, especially as it had to be done in addition to my regular duties as instructor in the Sheffield Scientific School. Obtaining suitable bands and in sufficient quantity was then as it always has been, a serious problem. In the early days we se-

² Cole, L. J., Suggestions for a method of studying the migrations of birds. 3rd Rept. Mich. Acad. Sci., 1901, pp. 67-70. 1902.

cured blank aluminum, either in tubes which were cut into the desired lengths for the "closed" bands, or in sheets which were cut up for "open" bands, and the stamping was done in part by ourselves, and in part by a janitor at so much per hour for his labor. Financial assistance came from a number of sources of which I do not at present have the record, but we were always sailing very close to the wind and more than once were almost on the rocks. On such occasions, I usually turned to Dr. Bishop, and it was largely owing to his unfailing response in times of need that we were able to keep the work going in these early years.

The plans for 1909 met a cordial response from a considerable number of ornithologists. The records now in my possession are incomplete and in attempting to give a list of even those collaborators who took a most active interest I am doubtless omitting a number whose names should be mentioned. A partial list, taken at random, includes: T. C. Stephens, Sioux City, Iowa; Harry S. Hathaway, Providence, R. I.; Ernest Harold Baynes, Meriden, N. H.; Alfred C. Redfield, Havenford, Pa.; B. S. Bowditch, Demarest, N. J.; Alfred O. Gross, then at Harvard University; Lynds Jones, Oberlin, Ohio; Ora W. Knight, Bangor, Me.; Charles W. Miller, Shawnee-on-Delaware, Pa.; Arthur H. Norton, Portland, Me.; Leonard S. Pearson, Wayne, Pa.; R. M. Strong, Chicago, Ill.; A. A. Saunders, Anaconda, Mont.; S. A. Curtis, Detroit, Mich.; Roy Thompson, Cando, N. D.; William L. Findley, Milwaukee, Ore. While this list undoubtedly has glaring omissions, it will at least serve to indicate to what extent the work in this season took on more than a local character.

The results obtained in 1909 were also much more encouraging. As these were reported in some detail in the *Auk*,³ there will be no need to repeat them here. Something over a thousand birds were banded during the season and a fair number of "returns" was obtained the same year. The most interesting of these in many respects were the results from banding done by Redfield and Pearson in a colony of Black-crowned Night Herons at Barnstable, Mass. Of nearly 200 young birds banded seven "returns" came in during August and September of the same year. Some of the letters announcing the finding of these birds were of more than scientific interest, and I cannot refrain from mentioning two of them in particular. The first was decidedly apologetic, and ran as follows:

"Gentlem dear sirs Your bird was shot here to day by me Albert Bailey for which I was more than Sorry when I found it had a ring on. I took it for a Hawk as It flew several times over my yard as I thought after chickens and Gentlemen all I can say that I am sorry If I did wrong In so doing and also beg Pardon.

"Yours with Rees

"Albert Bailey."

The other letter, from A. R. Graham & Son, Berkeley Hills Trout Farm, Berkeley, Mass., was in quite a different tone. It read:

"Gentlemen: The bearer of the enclosed [band] was found in one of our traps yesterday morning. Now will you please tell us if you are

³ Vol. XXVII, 1910, pp. 153-168.

raising these pests or did you simply capture and tag it to see how far it would migrate?"

Inquiry elicited the information that owing to the deprivations of Kingfishers, "Hawks" and Herons on their fish steel traps were set on the tops of posts near the pond, where the birds would alight. Concerning the capture of our banded specimen, it was added:

"As he hung suspended he was obliged to 'throw up' his catch before he could quack and the same was three trout and two pickrel all about 5 inches long. We catch and shoot about 40 of this family of birds every year and consider we have saved about \$5.00 of trout per bird destroyed."

Bird-banding not only has its romance, but it seems to stimulate the imagination. Mr. Finley banded a wren in Oregon and it was later found dead in a watering trough in the same state. A newspaper reported the finding, with a headline announcing that Wren Crosses Continent, since it had on its leg a band bearing the inscription, "The Auk, New York, 3429."

It became evident during the year that some more definite organization was necessary to carry on the expanded work, and this necessity grew into the idea of forming a national society for this purpose. At the meeting of the American Ornithologists' Union in New York City in November, 1910, I presented a report of the season's work and emphasized the need of a permanent organization. At the dinner, held at the Hotel Endicott on the evening of November 8, a paper was circulated calling for the signatures of those who desired to become charter members of such an organization. As a matter of historical interest it may be worth while to reproduce the list here. It includes the following names: G. J. Carpenter, B. S. Bowdish, George P. Ellis, W. DeW. Miller, L. A. Fuertes, T. Gilbert Pearson, Leon J. Cole, Thos. S. Roberts, Ruthven Deane, Witmer Stone, George Spencer Morris, John H. Gage, Charles F. Batchelder, James Savage, C. J. Pennock, Bruce Horsfall, Arthur H. Helme, J. A. Weber, A. C. Bent, Frederic H. Kennard, Dwight Franklin, J. T. Nichols, E. H. Forbush, J. Dwight, Jr., Louis B. Bishop, Lynds Jones, Chas. W. Miller, Edw. J. F. Marx, Francis Harper, Arthur A. Allen. To this list were added the following whose names were put down by request: Glover M. Allen, C. H. Pangburn, A. A. Saunders and Samuel Wright.

Following the dinner there was a meeting to perfect organization and a committee drew up articles of association, which were duly approved.⁴ Thus came into being the American Bird Banding Association. At the first meeting the following officers were elected: *President*, L. J. Cole; *Secretary-Treasurer*, C. J. Pennock; *additional members of the Executive Committee*, Louis B. Bishop, Glover M. Allen and Thos. S. Roberts.

The progress of the work was interrupted to some extent by my change in April, 1910, from New Haven to take up my present position at the University of Wisconsin. Furthermore, the duties of my position occupied so much time and were so foreign to the bird-banding, that I felt I must drop the active direction of this as soon as some one could be found to take it up. I carried it on as best I could, however, till April,

⁴ *The Auk*, Vol. XXVIII, 1910, p. 167.

1911, when it became imperative that we should make some other provision, as I was leaving for Europe the following month, to be gone all summer. I took the matter up with several interested persons and as a consequence received a generous offer from Mr. Ernest Harold Baynes, on behalf of the Meriden (N. H.) Bird Club, to take over the direction of the work and to raise the necessary funds; and at the same time a telegram from the Linnæan Society of New York City, stating that that society had appointed a committee to assume the responsibilities of the bird banding if desired. It was necessary for me to leave the decision in the hands of the Executive Committee, and it seemed best to them, because of location and for other reasons, to accept the offer of the Linnæan Society. This offer was made largely through the interest and efforts of Mr. W. W. Grant, and it is indeed due in great measure to his generous assistance at this time that the work was prevented from coming to a standstill. The name and membership of the American Bird Banding Association were continued, but the income was greatly supplemented by assistance from the Linnæan Society and by private subscriptions obtained through the energetic efforts of Mr. Grant and of the new secretary, Mr. Howard H. Cleaves. At this point, then, my active participation in the Association ceased, and the history beyond that time is not mine to write. I may merely add a word to round out the story. Comparatively little had been accomplished in 1910, and owing to the lateness of the season when the transfer was made, and the difficulties encountered in procuring a supply of bands, the same was true for 1911. Thereafter the work was actively pushed under the direction of Mr. Cleaves until, along with many other non-essential activities, it suffered another reverse during the war.

The credit for the recent great revival of interest in bird-banding belongs to Mr. S. Prentiss Baldwin of Cleveland, for he first amply demonstrated the superiority of trapping birds for banding purposes over the haphazard banding of nestlings. The use of traps had appealed to us in the earlier stages of the work and I discussed the matter fully with Mr. Charles W. Miller, who was at that time director of the Worthington Society for the Study of Bird Life, at Shawnee-on-Delaware, Pa. Mr. Miller wrote under date of May 10, 1909: "The method of trapping certain birds, tagging them and letting them go, and thus possibly trapping them again next season, it seems to me, is a very feasible plan and one in which I should be glad to coöperate with your committee in any way that I might be able." Four days later he reported that he had trapped and banded eight Orioles and one Song Sparrow, and by the end of the season the list was of considerable size. The Orioles particularly were "repeaters," and were often trapped several times in a day. On May 9, 1910, Mr. Miller wrote: "The first of last years' banded birds reported this afternoon in the shape of an adult male Baltimore Oriole, No. 3250. Banded May 15, '09, and retrapped three times on the 17th of the same month"; and he adds, "I should have liked to have been a speck on that band! What interesting things could be reported."

Arrangements were also made with Mr. C. W. Beebe for extensive trapping operations at the New York Zoölogical Park, but these were interrupted by the departure of Mr. Beebe on one of his extensive expeditions.

It was Mr. Baldwin, however, who really demonstrated the possibilities of the trapping method combined with banding, and one pregnant paragraph in his fascinating report⁵ emphasizes the new field opened up

“While this report includes only the ‘Returns’ of birds taken from one year to another, it is evident that not less important, to a person who operates traps at the same place all of a season, or all of a year, is the opportunity, by this method, of keeping in touch with the daily life of birds living in the vicinity; of knowing just when they come; just when young leave the nest; just how long they remain in the vicinity; and when they leave; and watching the exact movements of individual birds during migration. Indeed, the careful observer, in a fixed location, may obtain facts of greater scientific value on the daily records than from year to year.”

The remaining history of bird-banding in this country is recent history, and is still in the making. In 1920 the work of the American Bird Banding Association was taken over by the U. S. Bureau of Biological Survey, and the Association, after a life of intermittent activity extending over a period of ten years, came to an end. While it did not accomplish all it might have, it nevertheless played its part as a pioneer in bringing to the attention of ornithologists, and to the public to a limited extent, the value and possibilities of bird-banding; and it fostered the movement until the time was ripe for it to be taken over by an agency with facilities for its proper supervision and advancement. Those of us who have watched and helped in its growth may congratulate ourselves that it is now in such good hands, particularly under the able and enthusiastic guidance of Dr. Oberholser and Mr. Lincoln.⁶

In closing, I cannot forego a word as to the future, which certainly holds out bright prospects for results from bird banding. A host of volunteer trappers and banders is taking up the work; local associations, such as the New England Bird Banding Association, are being formed; and results of the greatest value and interest are sure to accrue. I think it is safe to predict that these results will not only be of theoretical interest, but that much of practical importance will come out of them as well. The Biological Survey is already stressing the importance of the work in relation to the administration of the Migratory Bird Act, and many other practical applications are sure to follow. In general the results will be of two kinds; those relating to the larger migratory movements, and those pertaining to more local life-history studies. In the first of these a large series of banding stations, strategically located, is of the utmost importance; for the second, in order to obtain the highest type of results, it is necessary that much of this work be done by thoroughly trained experimenters. In both cases it is important that the stations have a greater permanency than can be assured on the basis of purely voluntary coöperation. I would in no way belittle the value of the services of the independent individual observer; but I look forward to

⁵ Baldwin, S. Prentiss, Bird-banding by means of systematic trapping. *Proc. Linn. Soc. N. Y.*, No. 31, 1919, pp. 23-56. for bird study. This paragraph is well worth quoting:

⁶ See Lincoln, F. C., Instructions for bird banding. *U. S. Dept. Agr., Circ. 170*, 1921; also *Auk*, Vol. XXXVIII, 1921, pp. 217-228.

the time when we shall have a series of permanent stations either under the direct supervision of the Bureau of Biological Survey, or perhaps better, connected with our Agricultural Experiment Stations, Agricultural Colleges, Universities, or other institutions of learning, and coöperating with the Bureau. Such stations should have enough of a permanent organization and staff to insure a continuous regular routine of trapping and banding of migrants, and they could in addition undertake the study of such local problems as seemed desirable. Such a system of definitely located stations would in a way be comparable with the distribution of local weather bureaus and would serve a similar purpose, that is, they would form a network of outposts for the accumulation of records. If there were a station at each of the Agricultural Colleges and Universities, to say nothing of smaller colleges, in a great migration route like the Mississippi Valley, they could not fail in a number of years to accumulate information of the greatest significance in the study of migration. I may add that steps are being taken looking toward the foundation of a bird-banding station at the University of Wisconsin, and if this effort is successful it is to be hoped that this may be merely the first of a large number of similar stations.

The great advances in scientific knowledge have for the most part followed the development of some new method of delving into Nature's secrets. Bird-banding as a method of bird study is in its infancy and we may confidently look for significant results from its further application.

FLAT TRAPS

When the birds begin to sit on their eggs the trappers must be very careful or they will cause the loss of many sets of eggs by keeping the old birds away from the nest too long. This was the reason for making the flat or box shaped traps at Waukegan, Ill.

The sparrow type trap is only used nights and mornings. When you arrive home just close the doors, put in fresh feed, and you are ready for the evening's trapping; but be sure to make the rounds the last thing before dark to make sure that no birds are left in over night, as a cold rain or rats or owls may prove to be fatal before morning.

After the morning's trapping is over, open the doors of all the Government sparrow type traps so the birds may go in to feed and get out again. They soon loose fear and eventually you will catch them, but the flat trap seems to be far better at such times, for the birds will go under to feed without the fear that they show in entering a small opening; then there are no doors to close as they are always ready,—just pull the string. If you fail to go home some evening then there is no worry about the birds that you are responsible for being locked in a cage, which spoils your evening or makes you hurry home to release them.

The first ones were made with sides of four-inch boards one inch thick, but they were too heavy; then wire frames were made and covered with netting, but they were also heavy; finally, with aid of an expert metal worker, who is now making them for sale, a neat trap was made with folded seams and a smooth door, leaving no rough edges and sharp